

Remarks

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks. Claims 7-11 and 18-24 are pending in the application. Claims 7-11 and 18-24 are rejected. No claims have been allowed. Claims 7, 18, and 21 are independent.

Cited Art

The Action cites Wilson, U.S. Patent Publication No. 2002/0087698 (hereinafter “Wilson”); Gase, U.S. Patent No. 6,363,081 (hereinafter “Gase”); Block et al., U.S. Patent No. 7,433,955 (hereinafter “Block”); Morris et al., U.S. Patent No. 7,069,333 (hereinafter “Morris”); Hong et al., US H2065 H (hereinafter “Hong”); and Clark, U.S. Patent No. 6,598,068 (hereinafter “Clark”) in making rejections under 35 U.S.C. §§ 102 and 103.

Claim Rejections under 35 U.S.C. § 102

The Action rejects claims 21 and 24 under 35 USC 102(b) as being anticipated by Wilson. Applicants respectfully submit the claims are allowable over the cited art. For a 102(b) rejection to be proper, the cited art must show each and every element as set forth in a claim. (*See* MPEP § 2131.01.) However, the cited art does not describe each and every element.

As amended, independent claim 21 recites in part:

using a centralized connection manager, maintaining a record in a data structure at the centralized connection manager of which applications are using the shared connection, the data structure comprising data elements corresponding to connection requests that have been added to the data structure in response to connection method calls;

in response to a disconnection request from either the first or second application, deleting a data element from the data structure at the centralized connection manager, the data element corresponding to the application from which the disconnection request was received;

determining whether any data elements corresponding to connection requests remain in the data structure; and

based on the determining, maintaining the connection while at least one of the data elements corresponding to connection requests remains in the data structure and otherwise disconnecting the physical hardware connection.

According to some example implementations described in the Application:

... Upon receiving a connection request, state information about a requesting process is stored in a data structure. The data structure can be implemented as a linked list, a table, an array, or other data structure. In this example, the data structure is a linked list 700.

When a process calls a connection method to obtain access to a remote resource, the connection is established and a record indicates which process requested the connection 704 (e.g., by process id or other unique identifying information).

When a process requests a disconnection, the record 702 is removed for that process, and if no other processes maintains a connection as determined by other records 706 in the list, then the connection is terminated.

When a process 708 requests a connection while another process holds a connection 704, as determined by the list 704, 708, then the second process information is added as a record in the list, but the plural processes share the connection.

When all processes have been removed from the list, the shared connection is terminated. Using this logic, the share connection remains open even when a disconnection is requested by a process, so long as at least one other process remains on the list.

Application, pp. 14-15.

Applicants respectfully disagree that Wilson teaches or suggests the above cited language of claim 21. In rejecting claim 21, the Examiner suggests that a connection manager 28 in Wilson implicitly maintains a record of which applications are using a shared connection. *See* Action, p. 3. However, in rejecting claim 7, the Examiner states that Wilson does not teach “a data structure for registering an identifier associated with a client connection request; and, upon a client requesting disconnection from the physical hardware connection, deleting from the data structure, an identifier associated with the client disconnection request, whereby the physical hardware connection is disconnected when the deleted identifier is the last identifier ... within the data structure.” Action, p. 6. In rejecting claim 7, the Examiner also cites Gase, which mentions a “distribution list.” The Examiner states that the system in Gase “maintains a distribution list of registered processes that are sharing the connection (read as a data structure, see col. 3, lines 38-45).” *Id.*

However, the “distribution list” in Gase is maintained by the first application to make a connection via a “contested port” and not the recited “centralized connection manager” in claim 21. *See* Gase at col. 3, l. 43-45. Therefore, even if the disclosure of Wilson were combined with the disclosure of Gase, this combination still would not teach or suggest, for example, “using a

centralized connection manager, maintaining a record in a data structure at the centralized connection manager of which applications are using the shared connection, the data structure comprising data elements corresponding to connection requests that have been added to the data structure in response to connection method calls,” as recited in claim 21.

The art applied by the examiner does not teach or suggest each element of claim 21. Claim 24 depends from claim 21, and should be allowable for at least the reasons given above in support of claim 21. Applicants will not belabor the merits of the separate patentability of this dependent claim.

Accordingly, the rejection of these claims under 35 U.S.C. § 102(b) should be withdrawn. Such action is respectfully requested.

Claim Rejections under 35 U.S.C. § 103(a)

Under 35 U.S.C § 103(a), the Action rejects claims 7, 8, 10, 18, and 19 over Wilson in view of Gase; claim 9 over Wilson in view of Gase and Block; claim 11 over Wilson in view of Gase and Morris; claim 20 over Wilson in view of Gase and Hong; and claims 22 and 23 over Wilson in view of Gase and Clark. Applicants respectfully submit the claims are allowable over the cited art, because the cited art does not teach or suggest each element of the rejected claims.

Claims 7, 8, 10, 18, and 19

As amended, independent claim 7 recites in part:

- saving in a data structure maintained by the connection manager, a first connection request data element comprising:
 - an identifier of the first application from which the first request for a connection was received; and

- a value representing a time of the first request;

...

- saving in the data structure, a second connection request data element comprising:

- an identifier of the second application from which the second request for a connection was received; and

- a value representing a time of the second request;

...

- deleting from the data structure, the connection request data element corresponding to the application from which the request for the disconnection was received;

- disconnecting the physical hardware connection upon a disconnection

request when the deleted connection request data element is the last connection request data element in the data structure, and when the deleted connection request data element is not the last connection request data element, maintaining the connection.

As amended, independent claim 18 recites in part:

- using a connection manager, storing in a data structure identifiers of multiple other processes requesting to communicate with remote resources via the connection along with time values corresponding to requests made by the multiple other processes, the first process sharing the physical hardware connection with the multiple other processes and wherein the first process, the multiple other processes and the connection manager are located on the same computer;
- using the connection manager, removing an identifier of one of the processes from the stored identifiers when the process requests a disconnection;
- maintaining the connection when a process requests a disconnection when stored identifiers indicate another process is communicating with remote resources via the connection; and
- disconnecting the connection when a process requests a disconnection when stored identifiers indicate no other process is communicating with remote resources via the connection.

According to some example implementations described in the Application:

In another example, the records of the linked list also include a start field 710. The start field indicates a value for the time a process requested the connection. This time value is useful in case a process terminates or fails before a disconnect method is called by the process. After a threshold period of time after the indicated start time 710, the running process ids are checked (e.g., via an operating system service for determining active processes) to see if a process in the list 704, 708 is still running. If not, that process is removed from the list 700, and the connection is terminated if no other active processes are on the list.

Thus, the first connect call establishes a connection and adds a record of the requesting process to the list. Subsequent connection requests add records to the list. Disconnect method calls remove records from the list. After a threshold period of time from a start time 710, processes are checked to see if they are still active. Inactive processes are removed from the list. When no records remain, the connection is terminated.

Application, p. 15.

Applicants respectfully disagree that Wilson teaches or suggests the above cited language of claims 7 and 18, respectively. In rejecting claim 7, the Examiner states that Wilson does not teach “a data structure for registering an identifier associated with a client connection request; and, upon a client requesting disconnection from the physical hardware connection, deleting

from the data structure, an identifier associated with the client disconnection request, whereby the physical hardware connection is disconnected when the deleted identifier is the last identifier ... within the data structure.” Action, p. 6. In rejecting claim 7, the Examiner also cites Gase, which mentions a “distribution list.” The Examiner states that the system in Gase “maintains a distribution list of registered processes that are sharing the connection (read as a data structure, see col. 3, lines 38-45).” *Id.*

However, the “distribution list” in Gase is maintained by the first application to make a connection via a “contested port.” See Gase at col. 3, l. 53-45. Furthermore, Wilson and Gase do not teach or suggest storing time values, or values representing times of connection requests. Therefore, even if the disclosure of Wilson were combined with the disclosure of Gase, this combination still would not teach or suggest, for example, “saving in a data structure maintained by the connection manager, a first connection request data element comprising: an identifier of the first application from which the first request for a connection was received; and a value representing a time of the first request” in combination with the other elements recited in claim 7, or “using a connection manager, storing in a data structure identifiers of multiple other processes requesting to communicate with remote resources via the connection along with time values corresponding to requests made by the multiple other processes” in combination with the other elements recited in claim 18.

For at least these reasons, claims 7 and 18 should be allowable. Each of claims 8 and 10 depends from claim 7 and should be allowable for at least the reasons given above in support of claim 7. Claim 19 depends from claim 18 and should be allowable for at least the reasons given above in support of claim 18. Applicants will not belabor the merits of the separate patentability of these dependent claims.

The rejection of claims 7, 8, 10, 18 and 19 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

Claim 9

The Action rejects claim 9 under 35 U.S.C. § 103(a) over Wilson in view of Gase and Block. As explained above, claim 7, from which claim 9 depends, is allowable over Wilson in view of Gase because the combination of Wilson and Gase does not teach or suggest, for example, “saving in a data structure maintained by the connection manager, a first connection

request data element comprising: an identifier of the first application from which the first request for a connection was received; and a value representing a time of the first request” in combination with the other elements recited in claim 7. A combination of Wilson, Gase and Block also does not teach or suggest the recited language. Accordingly, the rejection of claim 9 should be withdrawn. Such action is respectfully requested. Applicants will not belabor the merits of the separate patentability of this dependent claim.

Claim 11

The Action rejects claim 11 under 35 U.S.C. § 103(a) over Wilson in view of Gase and Morris. As explained above, claim 7, from which claim 11 depends, is allowable over Wilson in view of Gase because the combination of Wilson and Gase does not teach or suggest, for example, “saving in a data structure maintained by the connection manager, a first connection request data element comprising: an identifier of the first application from which the first request for a connection was received; and a value representing a time of the first request” in combination with the other elements recited in claim 7. A combination of Wilson, Gase and Morris also does not teach or suggest the recited language. Accordingly, the rejection of claim 11 should be withdrawn. Such action is respectfully requested. Applicants will not belabor the merits of the separate patentability of this dependent claim.

Claim 20

The Action rejects claim 20 under 35 U.S.C. § 103(a) over Wilson in view of Gase and Hong. As explained above, claim 18, from which claim 20 depends, is allowable over Wilson in view of Gase. Although Hong mentions an “idle timer” associated with an open connection which is decremented when “there is no activity on the corresponding connection” (*see* Hong at columns 6 and 7), Hong does not teach or suggest, for example, “storing in a data structure identifiers of multiple other processes requesting to communicate with remote resources via the connection along with time values corresponding to requests made by the multiple other processes,” and the combination of Wilson, Gase and Hong does not teach or suggest, for example, “using a connection manager, storing in a data structure identifiers of multiple other processes requesting to communicate with remote resources via the connection along with time values corresponding to requests made by the multiple other processes” in combination with the

other elements recited in claim 18. Accordingly, the rejection of claim 20 should be withdrawn. Such action is respectfully requested. Applicants will not belabor the merits of the separate patentability of this dependent claim.

Claims 22 and 23

The Action rejects claims 22 and 23 under 35 U.S.C. § 103(a) over Wilson in view of Gase and Clark. As explained above, claim 21, from which claims 22 and 23 depend, is allowable over Wilson in view of Gase. Although Clark mentions that “a timer mechanism is used to cause the priority thread to periodically check whether any threads are waiting to use the resource” (*see* Clark at abstract), the combination of Wilson, Gase and Clark does not teach or suggest, for example, “using a centralized connection manager, maintaining a record in a data structure at the centralized connection manager of which applications are using the shared connection, the data structure comprising data elements corresponding to connection requests that have been added to the data structure in response to connection method calls” in combination with the other elements recited in claim 21. Accordingly, the rejection of claims 22 and 23 should be withdrawn. Such action is respectfully requested. Applicants will not belabor the merits of the separate patentability of these dependent claims.

Interview Request

If the claims are not found by the Examiner to be allowable, the Examiner is requested to call the undersigned attorney to set up an interview to discuss this application.

Conclusion

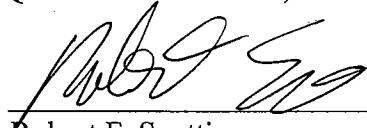
The claims in their present form should be allowable. Such action is respectfully requested.

Respectfully submitted,

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